

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/017855 A1

(51) International Patent Classification:
G01C 21/00, G06F 165/00

G08G 1/09,

(74) Agent: MCCONNELL, Dean, E.; Brinks Hofer Gilson
& Lione, Suite 1600, One Indiana Square, Indianapolis, IN
46204 (US).

(21) International Application Number:

PCT/US2003/022349

(22) International Filing Date: 17 July 2003 (17.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (*for all designated States except US*): HARMAN BECKER AUTOMOTIVE SYSTEMS GMBH [DE/DE]; Becker-Göring-Strasse 16, 76307 Karlsbad (DE).

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

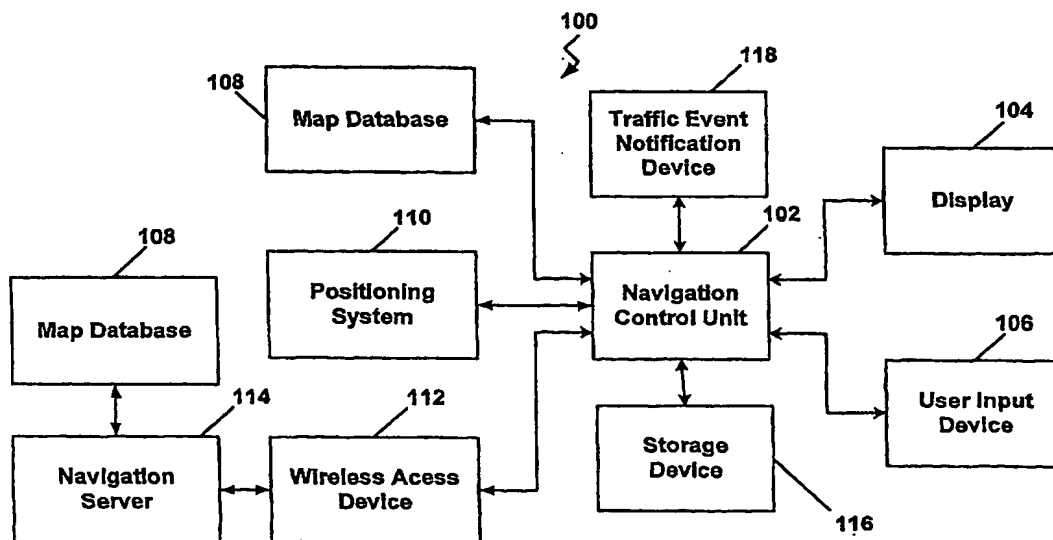
(75) Inventors/Applicants (*for US only*): WIENER, Martin [DE/DE]; Johannes-Kroger-Weg 5A, 21465 Reinbek (DE). TIEDTKE, Frank [DE/DE]; Beckergrube 49, 23552 Lubeck (DE).

Published:

— with international search report

[Continued on next page]

(54) Title: ROUTE CALCULATION AROUND TRAFFIC OBSTACLES USING MARKED DIVERSIONS



(57) Abstract: A vehicle navigation system (100; fig. 1) that includes a route calculation module (204; fig. 2) that is operable to use marked diversions to avoid traffic events. The navigation system includes a simulation module (212) that is used to simulate traffic events that may occur along a route to a trip destination. A diversion module (214) is used to calculate a plurality of marked diversions that avoid the traffic events that may occur along the route. If a traffic event occurs along the route, the route calculation module only searches roads that contain a marked diversion to determine an alternative route around the traffic event.